

CLAIMS

1. A deicing and/or anti-icing composition comprising
(a) glycerol and optionally (b) water.
2. A method of deicing or anti-icing a surface said method comprising adding to said surface a deicing or anti-icing agent comprising (a) glycerol and optionally (b) water.
3. A deicing and/or anti-icing composition comprising
(a) a hydroxyl-containing compound selected from the group consisting of glycols, monosaccharides, glycerols, and mixtures of any of the foregoing (b) an organic acid salt selected from the group consisting of a carboxylic acid salt, a hydroxycarboxylic acid salt, a dicarboxylic acid salt, a carbonic acid salt and mixtures of any of the foregoing and optionally (c) water.
4. A composition as defined in Claim 3 wherein said hydroxyl-containing compound comprises a glycol.
5. A composition as defined in Claim 3 wherein said hydroxyl-containing compound comprises a monosaccharide.
6. A composition as defined in Claim 3 wherein said hydroxyl-containing compound comprises a glycerol.
7. A composition as defined in Claim 3 wherein said organic acid salt comprises a carbonic acid salt.
8. A composition as defined in Claim 7 wherein said carbonic acid salt comprises potassium carbonate.
9. A method of deicing or anti-icing a surface said method comprising adding to said surface a deicing or anti-icing agent comprising (a) a hydroxyl-containing compound selected from the group consisting of glycols, monosaccharides, glycerols, and mixtures of any of the foregoing (b) an organic acid salt selected from the group consisting of a carboxylic acid salt, a hydroxycarboxylic acid

salt, a dicarboxylic acid salt, a carbonic acid salt and mixtures of any of the foregoing and optionally (c) water.

10. A method as defined in Claim 9 wherein said hydroxyl-containing organic compound comprises a monosaccharide.
11. A method as defined in Claim 9 wherein said hydroxyl-containing organic compound comprises a glycerol.
12. A method as defined in Claim 9 wherein said hydroxyl-containing organic compound comprises a glycol.
13. A method as defined in Claim 9 wherein said organic acid salt comprises a carbonic acid salt.
14. A method as defined in Claim 13 wherein said carbonic acid salt comprises potassium carbonate.
15. A composition as defined in Claim 3 wherein said glycol or other hydroxyl-containing compounds is obtained from an airport or aircraft runoff.
16. A method as defined in Claim 9 wherein said glycol or other hydroxyl-containing compounds is obtained from an airport or aircraft runoff.
17. A deicing and/or anti-icing composition comprising (a) a hydroxyl-containing organic compound selected from the group consisting of hydrocarbyl aldoses including di- and polysaccharides such as sucrose, sorbitol and other hydrogenation products of sugars, monosaccharides, maltodextrins and sucrose, maltitol, glycols, monosaccharides, glycerols, and mixtures of any of the foregoing, (b) a carbonic acid salt and optionally (c) water.
18. A composition as defined in Claim 17 wherein said carbonic acid salt comprises potassium carbonate.

19. A method of deicing or anti-icing a surface said method comprising adding to said surface a deicing or anti-icing agent comprising (a) a hydroxyl-containing organic compound selected from the group consisting of hydrocarbyl aldosides including di- and polysaccharides such as sucrose, sorbitol and other hydrogenation products of sugars, monosaccharides, maltodextrins and sucrose, maltitol, glycols, monosaccharides, glycerols, and mixtures of any of the foregoing, (b) a carbonic acid salt and optionally (c) water.
20. A method as defined in Claim 19 wherein said carbonic acid salt comprises potassium carbonate.
21. A deicing and/or anti-icing composition comprising (a) carbonic acid salts and optionally (b) water.
22. A composition as defined in Claim 21 wherein said carbonic acid salt comprises potassium carbonate.
23. A method of deicing or anti-icing a surface, said method comprising adding to said surface a deicing or anti-icing agent comprising (a) carbonic acid salts and optionally (b) water.
24. A method as defined in Claim 23 wherein said surface is an airport runway and said organic acid salt comprises potassium carbonate.
25. An improved deicing and/or anti-icing agent comprising an inorganic salt, the improvement comprising reducing the amount of inorganic salt by at least 5 weight percent by replacement with (a) a hydroxyl-containing organic compound selected from the group consisting of glucosides, furanosides, maltosides, maltotrioses, glucopyranosides, glycerol, glycols, monosaccharides, sorbitol and other hydrogenation products of sugars,

- monosaccharides, maltodextrins and sucrose, maltitol, and mixtures of any of the foregoing, or (b) an organic acid salt selected from the group consisting of carboxylic acid salts, hydroxycarboxylic acid salts, dicarboxylic acid salts and mixtures of any of the foregoing, or (c) a mixture of (a) and (b).
26. An improved composition as defined in Claim 25 wherein said hydroxyl-containing compound comprises glycol from recovered airport or aircraft runoff.
 27. An improved composition as defined in Claim 25 wherein said hydroxyl-containing compound comprises sorbitol.
 28. An improved composition as defined in Claim 25 wherein said hydroxyl-containing compound comprises glycerol.
 29. An improved deicing and/or anti-icing agent comprising an inorganic salt, the improvement comprising reducing the amount of inorganic salt by at least 5 weight percent by replacement with a hydroxyl-containing organic compound-containing industrial process stream.
 30. An improved composition as defined in Claim 29 wherein said industrial process stream comprises a desugared molasses.
 31. A method for deicing and/or anti-icing pre-harvest fruit and vegetable crops comprising spraying on said crops (a) a hydroxyl-containing organic compound selected from the group consisting of glucosides, furanosides, maltosides, maltotriosides, glucopyranosides, glycerol, glycals, monosaccharides, sorbitol and other hydrogenation products of sugars, monosaccharides, maltodextrins and sucrose, maltitol, and mixtures of any of the foregoing, or (b) an organic acid

salt selected from the group consisting of carboxylic acid salts, hydroxycarboxylic acid salts, dicarboxylic acid salts and mixtures of any of the foregoing, or (c) a mixture of (a) and (b).

32. A method as defined in Claim 31 wherein said organic acid salt comprises a salt of lactic acid.
33. A deicing and/or anti-icing composition comprising (a) a carbonic acid salt and (b) an industrial process stream comprising a hydroxycarboxylic acid salt and a hydrocarbyl aldoside.
34. A deicing and/or anti-icing composition as defined in Claim 33 wherein said hydroxycarboxylic acid salt comprises lactic acid and said hydrocarbyl aldoside comprises a glucopyranoside.
35. A deicing and/or anti-icing composition as defined in Claim 33 wherein said industrial process stream comprises a desugared beet molasses.